

REMARKS

The Applicants thank the Examiner for the thorough consideration given the present application. Claims 21-33 and 35-37 are pending. Claim 34 is cancelled herein without prejudice to or disclaimer of the subject matter set forth therein. Claims 1-20 were previously cancelled herein without prejudice to or disclaimer of the subject matter set forth therein. Claims 21, 22, 29, 35, 36 and 37 amended. Claim 21 is independent. The Examiner is respectfully requested to reconsider the rejections in view of the amendments and remarks set forth herein.

Reasons for Entry of Amendments

At the outset, it is respectfully requested that this Amendment be entered into the Official File in view of the fact that the amendments to the claims automatically place the application in condition for allowance.

In the alternative, if the Examiner does not agree that this application is in condition for allowance, it is respectfully requested that this Amendment be entered for the purpose of appeal. This Amendment reduces the issues on appeal by placing the claims in compliance with 35 U.S.C. § 112, second paragraph, and by canceling claim 34, thereby reducing the number of pending claims. This Amendment was not presented at an earlier date in view of the fact that the Examiner has just now presented new grounds for rejection in this Final Office Action.

Rejection Under 35 U.S.C. § 112, second paragraph, and 35 U.S.C. § 101

Claims 29, 36, and 37 stand rejected under 35 U.S.C. § 112, second paragraph, and claim 36 and 37 stand rejected under 35 U.S.C. § 101. These rejections are respectfully traversed. In order to overcome these rejections, the Applicants have amended claims 29, 36, and 37 to address the issues specifically pointed out by the Examiner. The Applicants respectfully submit that the claims, as amended, particularly point out and distinctly claim the subject matter which the Applicants regard as the invention. In addition, claims 36 and 37 now properly recite a method step. Accordingly, reconsideration and withdrawal of these rejections are respectfully requested.

Rejections Under 35 U.S.C. §102(b)

Claims 21 and 22 stand rejected under 35 U.S.C. §102(b) as being anticipated by Woods. (U.S. 5,741,014);

Claims 21, 23, and 32 stand rejected under 35 U.S.C. §102(b) as being anticipated by Ono et al. (U.S. 5,326,605);

Claims 21, 24, 26, and 27 stand rejected under 35 U.S.C. §102(b) as being anticipated by Komiyama et al. (U.S. 5,118,567);

Claims 21 and 25 stand rejected under 35 U.S.C. §102(b) as being anticipated by Doss (U.S. 4,113,914);

Claims 21, 23, 27, and 31 stand rejected under 35 U.S.C. §102(b) as being anticipated by Kinzer et al. (U.S. 5,599,622); and

Claims 21, 28-30, and 33-35 stand rejected under 35 U.S.C. §102(b) as being anticipated by Bonk et al. (U.S. 4,731,273).

These rejections are respectfully traversed.

While not conceding the appropriateness of the Examiner's rejections, but merely to advance prosecution of the instant application, independent claim 21 has been amended herein to recite a combination of elements directed to a pressure-sensitive material including a pressure-sensitive adhesive material or a sealing material which has a three-dimensional structure and a defined cross-sectional contour, wherein said material is produced by polymerization of a polymerizable mass comprising at least one compound selected from the group consisting of aromatic (meth)acrylates, alicyclic (meth)acrylates, polycyclic (meth)acrylates, heterocyclic (meth)acrylates, di-, tri- and higher (meth)acrylates, epoxide acrylates, epoxides, vinyl ethers, and vinyl esters, and has a round, semicircular, oval, elliptical, triangular, quadrangular, polygonal or irregular cross-sectional contour, and is present as rolled or continuous material.

As can be seen, independent claim 21 has been amended so that the term "can be" has been replaced with "is". Moreover, the subject matter of claim 34 and some features of claim 35 have been incorporated into independent claim 21 to better distinguish the three-dimensional system of the present invention from the flat "almost two-dimensional systems" disclosed in each of the references cited by the Examiner. Note in particular, that the term "cross-sectional" has been inserted between "irregular" and "contour" in the last line of claim 21.

The Applicants respectfully submit that the combination of elements as set forth in independent claim 21 is not disclosed or made obvious by the prior art of record, including Woods, Ono et al., Komiyama et al., Doss, Kinzer et al., and Bonk et al.

Differences between the present invention as set forth in independent claim 21 and the references cited by the Examiner include the following:

Woods (US 4,414,275) merely describes an adhesive product having one adhesive side. A polyester film being siliconised on one of its sides is etched and subsequently provided with an adhesion-mediating material on the basis of polyvinyl acetate. A pressure-sensitive adhesive is then applied to the side being provided with said adhesion-mediating material. Such products are commonly used, for instance as adhesive tapes in offices. These products are commonly referred to as "scotch tape". This kind of tape is meant in the present application when it is referred to a flat, two-dimensional geometry. Hence, a direct relation to the endless three-dimensional systems or rolls of strings or polygons as being subject matter of the instant application can not be seen.

It may be that the chemistry of the pressure sensitive adhesives disclosed by Wood is very similar to those of the present application. This is not unusual, because it is known that pressure sensitive adhesives can only be produced from a limited group of monomers, preferably from acrylates. In this regard, it should be considered that numerous documents concerned with the manufacturing of polyacrylates and their use as pressure sensitive

adhesives are available to the skilled artisan. However, no products are believed to be available which have a noticeable three-dimensional cross section.

Ono et al. (US 5,326,605) merely disclose thick coatings (col. 5, lines 2 and 3), which are "almost two dimensional bodies" pursuant to the definitions given in the specification of the instant application (p.1, last paragraph), i.e. they have a flat geometry. The presumed three dimensional structure is given in that pressure sensitive adhesive material is molten and then pressed into gaps by means of a tool for exclusive use (gun). Clearly, the pressure sensitive adhesive material for use is not present as rolled or continuous material having a round, semicircular, oval, elliptic, triangular, quadrangular, polygonal or irregular cross-sectional contour. Hence, a direct relation to the endless three-dimensional systems or rolls of strings or polygons as being subject matter of the instant application can not be seen.

Beyond that, this document solely concerns thermoreactive systems (see all examples). The only three-dimensional system disclosed in this document is described in example 3, wherein the casting of a pressure sensitive adhesive is extensively described. However, no direct relation to the endless three-dimensional systems or rolls of strings or polygons as being subject matter of the instant application can be seen in this case too.

Komiyama et al (US 5,118,567) merely disclose a pressure sensitive tape or film, i.e. an area-measured material or flat system having almost two-dimensional geometry. Three-dimensional products are not described therein.

Beyond this, in col. 3, lines 25-26 the production of copolymers based on epoxyacrylates are described. An epoxyacrylate homopolymer as being the subject matter of pending claim 27 is neither disclosed nor made obvious. In this regard, we also refer to col. 3, lines 44-46.

The products disclosed in US 5,118,567 always have to be cured, either by means of exposure to elevated temperatures or to UV light. In contradistinction, the pressure sensitive adhesive material or sealing material of the present invention does not require subsequent curing after said material was applied. The product of the present invention is entirely polymerized during its manufacturing and then "ready to use". Moreover, the product of the present invention does not undergo any transformation even if being subjected to elevated temperatures.

Doss (US 4,113,914) merely teaches the use of styrene as monomer for manufacturing a polymer. Doss teaches that styrene is used for the manufacturing of styrene-butadiene copolymers (rubber). A direct association of styrene as a monomer that increases the glass transition temperature of a pressure sensitive adhesive can not be inferred from this document. Pressure sensitive adhesives on the basis of rubber are known, however, it is not the rubber as such which provides the adhesive component, but the resins or abietinic acid derivatives contained therein.

In this document it may be mentioned that the sealing material remains on the substrate in form of a stable three-dimensional product after evaporation of the solvent. However, this

appears to be common knowledge, because every solvent based composition becomes a solid body after removal of the solvent. Manufacturing of stripes having a three dimensional cross-section are not disclosed herein. Manufacturing such products having a three dimensional cross-section prior to their use and for use as pressure sensitive adhesive material or sealant material is not made obvious. Therefore, it appears that this document does not provide any direct association which could affect patentability of the claimed invention.

Kinzer et al. (US 5,99,622) merely teach the production of a sealant or adhesive system by means of a so called "dual cure mechanism". The dual cure mechanism" is a process wherein olefinic monomers are polymerized by radical polymerization. Said polymer is subsequently cured in a separate step by UV light to build up a three-dimensional network. In contradistinction, the present invention does not comprise material being curable by the "dual cure mechanism".

The cross-linking agents being higher functional monomer were already known in 1997. They are not claimed as novel in the instant application, but they serve a more precise characterization of the materials and the manufacturing process.

With respect to the Examiner's citation of Kinzer et al. against the presence of a flame proofing agent, we would like to note that the presence of a flame proofing agent in a pressure sensitive adhesive material of the present invention is an optional feature. Claim 31 serves to provide a more detailed definition of the possible embodiments of the present invention and is not only common in the field of adhesives and adhesive tapes nowadays, but was already

known at the time US `622 was filed. The presence of a flame proofing agent is not claimed to be a feature providing novelty to the endless three-dimensional pressure sensitive adhesive systems being subject matter of the present invention.

Bonk et al. (US 4,731,273) merely describe a material to wrap pipes. This is definitely a product which is designated to be almost two dimensional in the present application, and clearly distinguished from the claimed three-dimensional products.

This patent discloses that the films are heat activatable. Such systems are not subject of the present application. The systems of the present invention are pressure-sensitive at room temperature.

At least for the reasons described above, the Applicants respectfully submit that the combination of elements as set forth in independent claim 21 is not disclosed or made obvious by the prior art of record, including Woods, Ono et al., Komiyama et al., Doss, Kinzer et al., and Bonk et al. Accordingly, reconsideration and withdrawal of these rejections are respectfully requested.

Independent claim 21 is in condition for allowance.

Dependent Claims

The Examiner will note that dependent claim 34 has been cancelled, because its subject matter has been incorporated into independent claim 21. In addition, non-narrowing amendments have been made to dependent claims 22, 29, and 35.

In particular, claim 29 has been amended merely to recite the chemical identities of the compounds instead of the trade names. The chemical names of these compounds were not specifically recited in the specification as filed. However, the chemical identities of these compounds were directly, clearly and unequivocally disclosed in the original specification by means of their chemical formulas (See page 7 of the specification, for example). Therefore, reciting chemical names of these compounds does not extend the scope of disclosure beyond its original content.

Further, each of dependent claims 36 and 37 has been amended to place them in better form by explicitly recite a method step.

All dependent claims are in condition for allowance due to their dependency from allowable independent claims, as well as for the additional novel limitations set forth therein.

All claims of the present application are now in condition for allowance.

CONCLUSION

All of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. It is believed that a full and complete response has been made to the outstanding Office Action, and that the present application is in condition for allowance.

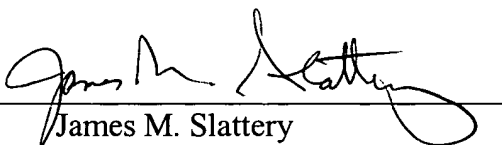
If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, he is invited to telephone Carl T. Thomsen (Reg. No. 50,786) at (703) 208-4030 (direct line).

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§1.16 or 1.17, particularly extension of time fees.

Respectfully submitted,

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